

C L A I M S

1.- Rapid connection/assembly system, for lift guides, where each guide (1) includes a head-core (13) where a precision finish has been carried out on its upper surface of reference (11) (OX-axis) and a
5 precision finish on its side surfaces of reference (12) (OY-axis) and a flange (14) on each side; characterised because:

a) at least one connection point (P) is determined on each flange (14) of each guide (1), situated at a predetermined set height /h) with respect to the upper surface of reference (11) of the head
10 (13) and at a predetermined set distance (a) with respect to the respective side surface of reference (12) of the head (13);

b) a machine finish (141) open to the outside is placed on the flanges (14) around each connection point (P);

c) some connection plates (2) are placed, each one of which
15 extends between the flanges (14) of each side of at least two guides (1); this connection plate (2) is organised into two plate parts (2a) which match the flanges (14) of each side and which can be moved in some tightening means (2b), (21), (22) mounted on these plate parts (2a), which, when moved closer together, tighten these plate parts
20 (2a) laterally against the flanges (14);

d) on each plate part (2a) there are alignment elements (3), (241) which centrally and in a combined way match the machined parts (141) on the connection points (P) of the flanges), so that when the plate parts (2a) are tightened against the flanges (14) all the
25 connection points (P) of the flanges (14) of each side of the guides (1) remain in a straight line (I).

2.- Rapid connection/assembly system, for lift guides, according to previous claim, characterised because:

a) each flange (14) forms some open machined parts (141) in origin; these machined parts are placed in opposing pairs: one or
5 several pairs spaced out at any distance (d_1) the last of these pairs being machined at any distance (d_2) from the end of the guide (1);

b) the upper surface (11) and the side surfaces (12) of the head (13) are used as reference to position in origin the open machined parts (141), whose centres are the connection points (P);

10 c) a connection plate (2) is placed, organised into two plate parts (2a) with tightening means (2b) to bring them closer/separate them to a maximum distance (d_3), and which form some alignment elements (241) in origin, which are distributed into at least two pairs separated from each other by a distance (d_4); these alignment
15 elements (241) form the retention means which, integrated into the actual connection plate (2) and dependent upon this, attach is securely and jointly to the flanges (14) of two guides (1) to be joined;

so that for the rapid connection/assembly, it is sufficient to place the machined parts (141) opposite each other, (241) of the guides (1) and
20 compress longitudinal-parts (2a) of this connection plate (2) closer together.

3.- Rapid connection/assembly system, for lift guides, according to claim 2, characterised because the alignment elements (241) are distributed into at least four pairs separated from each other,
25 two by two by a distance (d_5).

4.- Rapid connection/assembly system, for lift guides, according to claims 2 and 3, characterised because in the relationship between distances (d₁), (d₂), (d₄), (d₅) the following must be satisfied:

$$d_4 = 2d_2 \text{ y } d_5 = d_1$$

5 5.- Rapid connection/assembly system, for lift guides, according to previous claims, characterised because each plate part (2a) is an elongated "U"-shaped profile with asymmetrical flanges, one of them bent towards the interior, and couples of conformations (20) opposite each other, to house the tightening means (2b).

10 6.- Rapid connection/assembly system, for lift guides, according to claim 5, characterised because these alignment elements (241), which form the integrated retaining means and dependent on the base plate (2) are protuberances that are dimensionally combined with the open machined parts (141) and forming the bend of one of
15 the asymmetric flanges of these plate parts (2a).

7.- Rapid connection/assembly system, for lift guides, according to previous claims, characterised because the aforementioned tightening means (2b) are sets of stud (21) and nut (22), housed in opposing conformation sets (20) on the plate parts
20 (2a) so that the maximum separation distance (d₃) between plate parts (2a) is delimited, respectively, by the nut (22) and the head (21b) of the stud (21).

8.- Rapid connection/assembly system, for lift guides, according to claim 5, characterised because these conformations (20)
25 are, in each set, an anti-rotation opening (20a) and an open box (20b).

9.- Rapid connection/assembly system, for lift guides, according to claims 1 to 4, characterised because the plate parts (2a) are solid, with an extension wall on whose end the alignment elements (241) are placed forming a bend.

5 10.- Rapid connection/assembly system, for lift guides, according to claim 9, characterised because these conformations (20) are through openings.

11.- Rapid connection/assembly system, for lift guides, according to claim 1, characterised because:

10 a) each flange (14) forms some machined parts (141) in origin; these machined parts are placed in opposing pairs: one or several pairs are separated between each other by any distance (d_1) the last of these pairs being machined at any distance (d_2) from the end of the guide (1);

15 b) the upper surface (11) and side surfaces (12) of the head (13) are used as reference to position the open machined parts (141) in origin, whose centres are the connection points (P);

20 c) there is a connection plate (2) organised into two plate parts (2a) with tightening means (2b) bring them closer together/further apart, to a maximum distance (d_3);

 d) there are alignment elements (3) pre-mounted on these plate parts (2a) that can be moved closer;

so that for the rapid connection/assembly it is sufficient to position the open machined parts (141) of the guides (1) opposite the alignment
25 elements (3) pre-mounted on the connection plate (2), then

compressing the plate parts (2a) of this connection plate (2) when moved closer to.

12.- Rapid connection/assembly system, for lift guides, according to claim 11, characterised because the plate parts (2a) are
5 solid and the alignment elements (3) are spigots inserted into these plate parts (2a) so that they interrupt the continuity of some longitudinal guides (25) that cover some continuous chamfers (15) that attach to each other the open machined parts (141) of the guides (1) to be connected.

10 13.- Rapid connection/assembly system, for lift guides, according to claims 1 to 4, characterised because these alignment elements (241) are die-stamped flanges in the core of these plate parts (2a).

14.- Rapid connection/assembly system, for lift guides,
15 according to claim 13, characterised because these die-stamped flanges (241) are conformed in the core of the plate parts (2a).